

# Hepatitis A, Norwalk Virus and Food Safety

How to Protect your Employees and Patrons



A Statewide Videoconference for  
Foodservice Managers and Operators

March 9, 2004 Food Safety Video  
Conference Presentation

# A Cooperative Presentation of

- UNH, College for Lifelong Learning,  
Gregg Public Safety Academy
- New Hampshire Lodging and Restaurant Association
- New Hampshire Grocers Association
- New Hampshire Public Television
- New Hampshire Department of Safety
- New Hampshire Department of Health  
and Human Services



# Why Are We Talking About This?

- Viral diseases are easy to transmit and can be serious
- Most common cause of food establishment outbreaks
- Causes high level of concern for the business and patrons
- Increased amount of disease being seen statewide



# Outline

1. Hepatitis A
2. Norwalk Virus
3. Tips for reducing transmission in the workplace
4. How does the DHHS investigate and respond?



# What is a virus?

- A virus is a simple micro-organism.
- Much smaller and less complex than other micro-organisms such as bacteria, parasites or fungi.
- Those viruses causing disease infect specific cells in the body and kill or damage them, often by reproducing in large quantities.
- The body's immune system responds, but this takes time.



# Hepatitis A Virus

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# Hepatitis A

- Hepatitis A is a virus.
- The virus temporarily damages the liver by infecting cells.
- It is this damage that produces the symptoms.



# Hepatitis A

- The incubation period, the time from exposure to symptoms, is 15 to 50 days, average 30 days.
- Serious complications or death are rare, occurring in 0.1 – 0.3% of all cases.
- Spread can occur in two different ways, but it is most commonly person-to-person through ingestion of fecal matter.





# Symptoms

- Nausea, Vomiting, Diarrhea, Fever, Dark Urine
- Jaundice is the characteristic sign
- Symptoms are less severe in children
- Symptoms can often lead to hospitalization and last for weeks



# Treatment

- No specific treatment or antibiotics
- Supportive therapy
  - Replace fluid losses
  - Rest

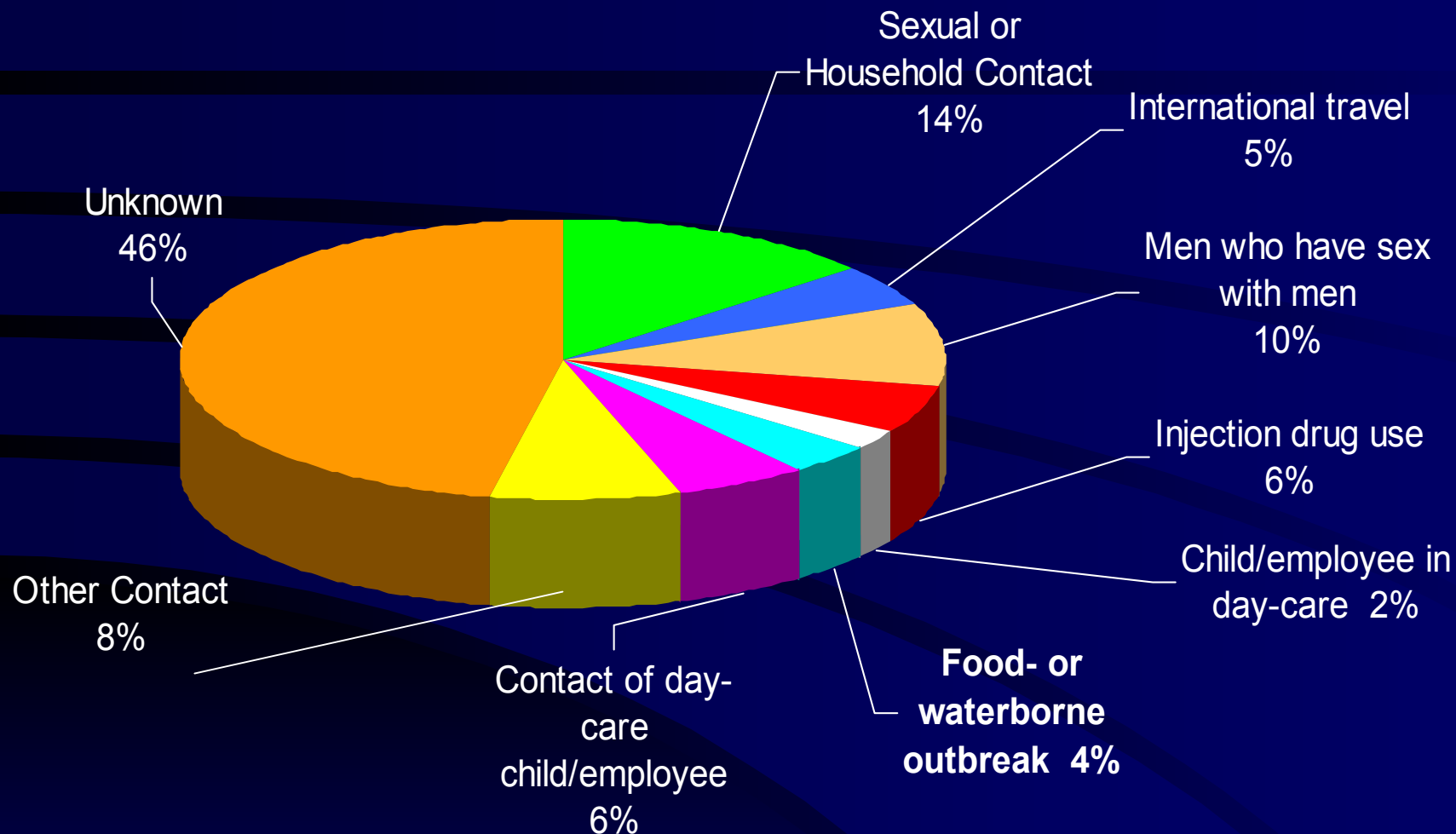


# How Is It Spread?

- Close personal contact  
(e.g., household contact, sex contact, child day-care centers)
- Contaminated food or water
- Blood exposure (e.g., injection drug use, rarely by transfusion)
- Communicability is highest in the two weeks prior to and the first week after the onset of symptoms



# Risk Factors for Hepatitis A in the United States



# Hepatitis A

- Transmission through food is a rare cause of Hepatitis A
- When it occurs through a foodservice establishment, it causes substantial disruption to the workplace and the community

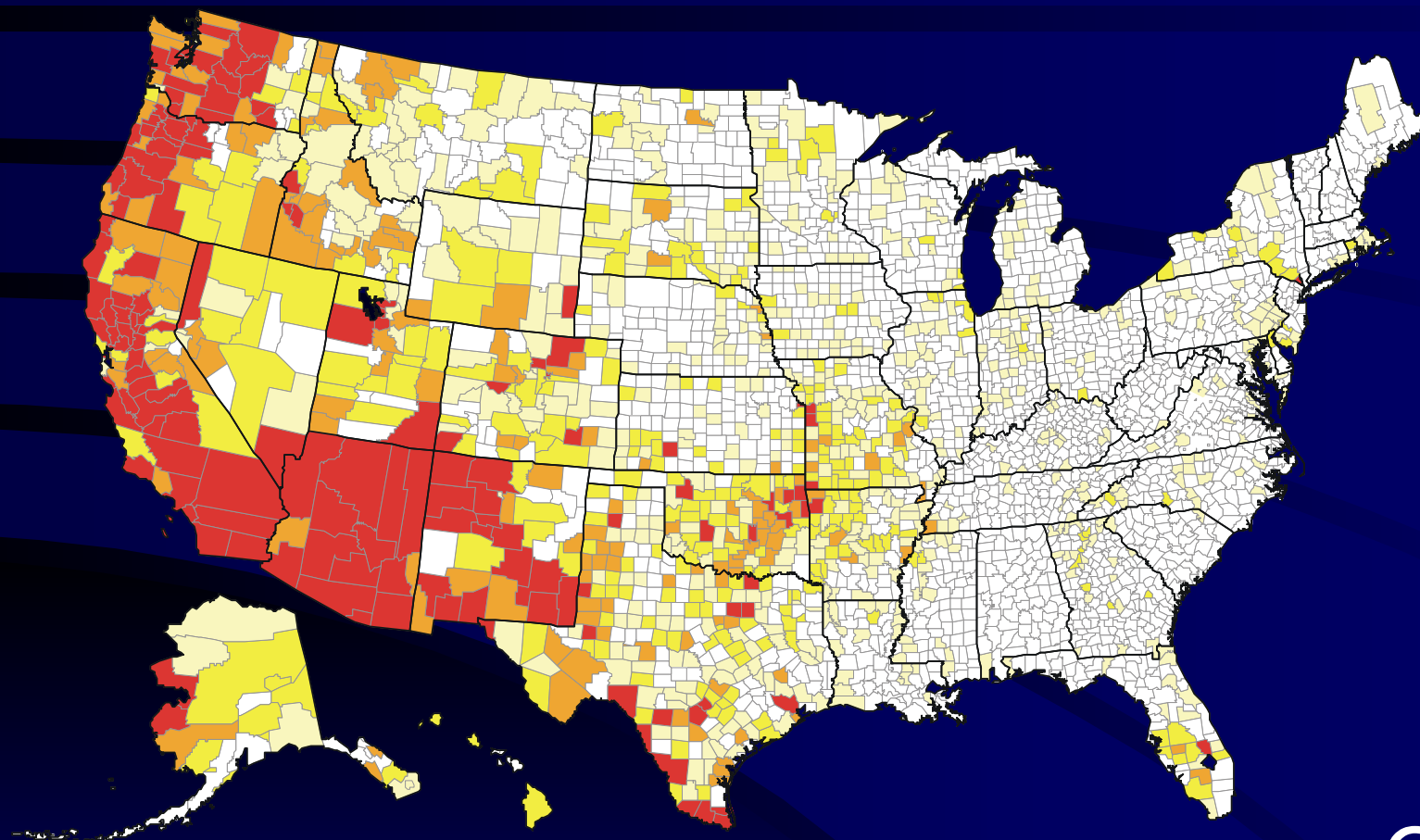


# National Trends in Hepatitis A

- National rate decreasing
- Rates increasing in some states
  - Occurring among adults in high risk groups (e.g. MSM, drug users)
- New Hampshire rate lower than the national average
- Approximately 15 – 25 cases per year in New Hampshire



# Incidence of Hepatitis A per 100,000 Population, By County, 1987-1997



0-1

2-3

4-5

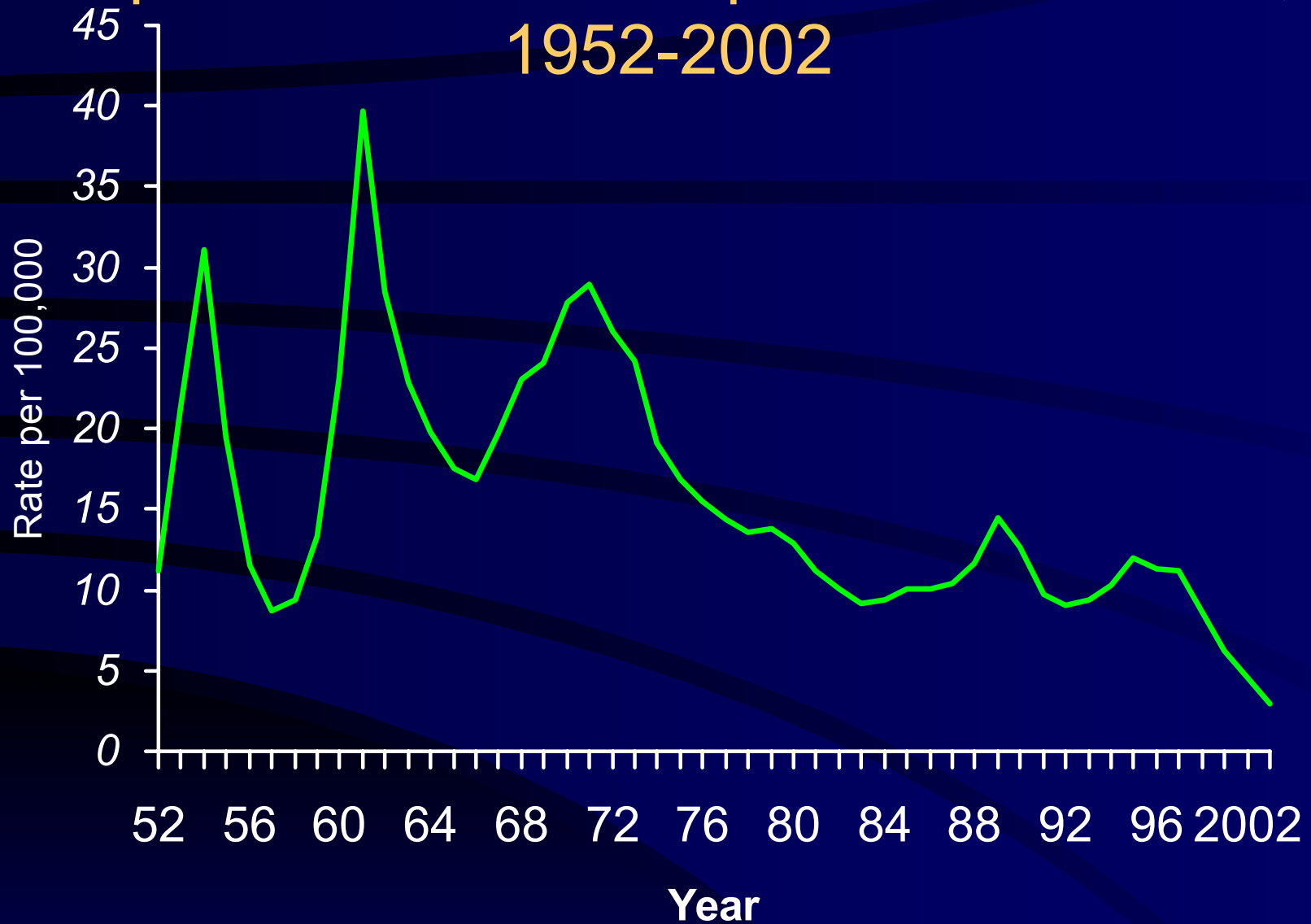
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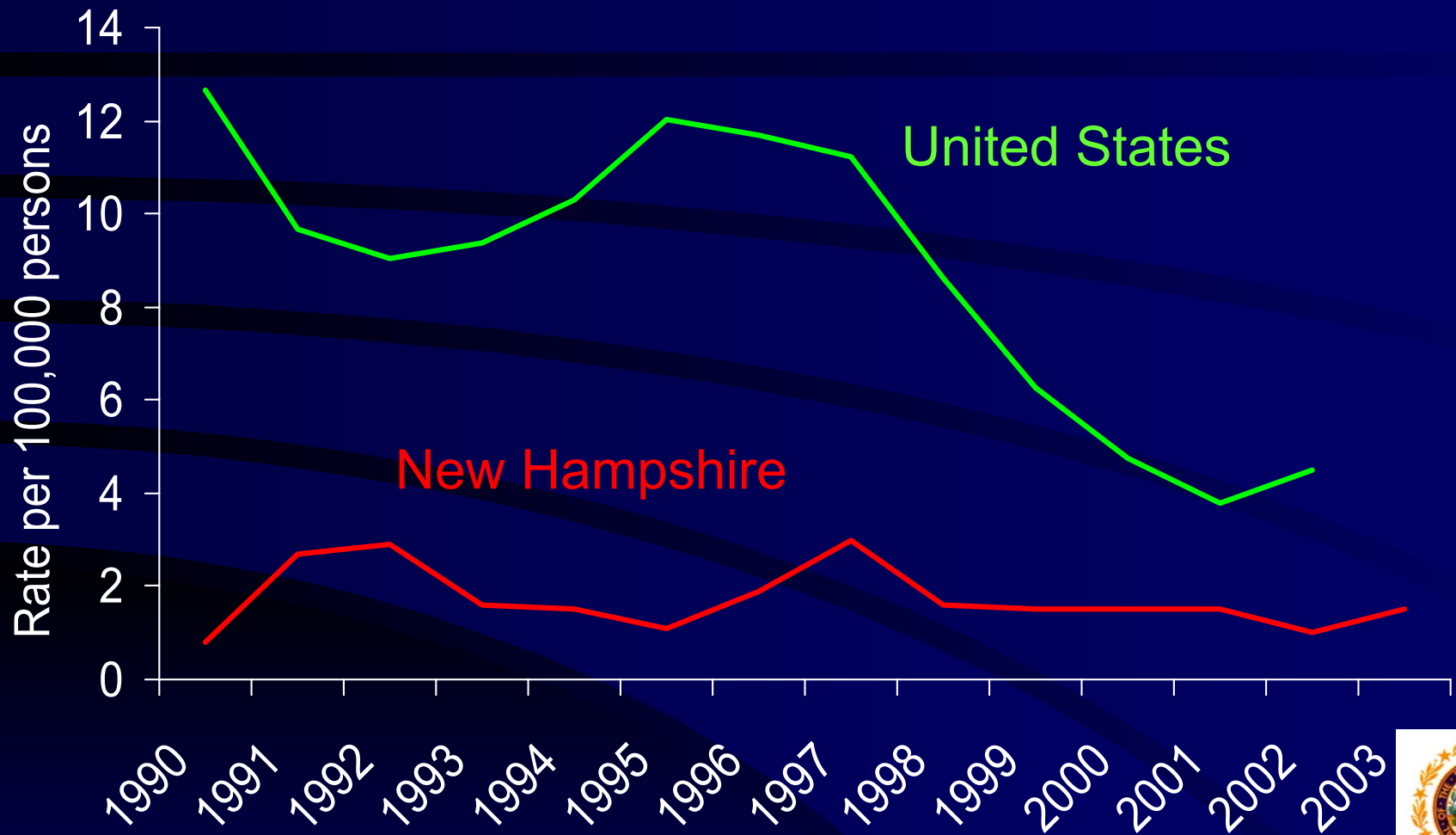
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# Reported Cases of Hepatitis A in the US, 1952-2002





# Hepatitis A. US and NH, 1990-2003



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# Comparison of Common Diarrheal Diseases. New Hampshire, 1999 - 2003

<u>Micro-organism</u>	<u>Average # of cases per year</u>
Campylobacter sp.	170
<i>E. coli</i> O157:H7	34
Salmonella sp.	151
Hepatitis A	17
Botulism	0.5

# Foodservice Industry and Risk of Hepatitis A

- In 2003 in New Hampshire, it is estimated that there are 40,500 food and drink workers of 627,600 employed persons (6.5%).
- By chance alone, there is a 33% likelihood that one Hepatitis A case will occur in a food service worker each year in New Hampshire.

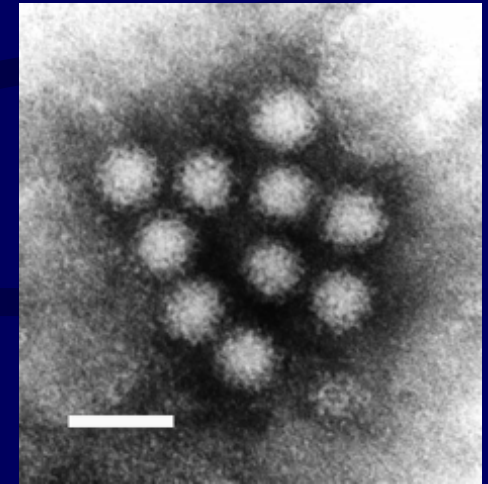


# Norovirus

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# Norovirus



- A virus that causes a diarrheal disease in humans.
- Noroviruses are named after the original strain “Norwalk virus,” which caused an outbreak of gastroenteritis in a school in Norwalk, Ohio, in 1968.



# Norovirus

- Estimated 23 million cases each year.
- At least 50% of all foodborne outbreaks of diarrheal disease can be attributed to noroviruses.
- Most through direct contamination of food by a food handler immediately before its consumption.



# Norovirus

- Outbreaks have been associated with consumption of cold foods, including:
  - various salads
  - sandwiches
  - salad dressing
  - cake icing, and bakery products
- Food can also be contaminated at its source, and oysters from contaminated waters have been associated with widespread outbreaks.



# Norovirus

- Other foods, including raspberries and salads, have been contaminated before widespread distribution and subsequently caused extensive outbreaks.
- Waterborne outbreaks of norovirus disease in community settings have often been caused by sewage contamination of wells and recreational water.





# Features of Norovirus

- The incubation period is usually between 24 and 48 hours (median in outbreaks 33 to 36 hours), but cases can occur within 12 hours of exposure.
- Recovery is usually complete and there is no evidence of any serious long-term complications.
- Asymptomatic infection may occur in as many as 30% of infections.



# Symptoms

- Vomiting
- Diarrhea
- Abdominal cramps
- Nausea
- Fever, usually low
- Symptoms usually last 24 to 60 hours.



# How Is It Spread?

- Highly contagious - as few as 10 virus particles may be sufficient to infect an individual.
- Transmitted through the fecal-oral route, either by consumption of fecally contaminated food or water or by direct person-to-person spread.
- Environmental contamination may also act as a source of infection.
- During outbreaks all of the mechanisms may apply.



# How Is It Spread?

- Presymptomatic viral shedding is possible.
- Transmission begins with onset of symptoms and may continue for 2 weeks after recovery.



# Treatment

- No specific treatment or antibiotics
- Supportive therapy
  - Replace fluid losses
  - Rest



# Norovirus

- Noroviruses are relatively resistant to environmental challenge: they are able to survive freezing temperatures and temperatures as high as 60°C.
- Noroviruses can survive in up to 10 ppm chlorine, well in excess of levels routinely present in public water systems.



# How to Prevent Virus Transmission in a Foodservice Establishment

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# Preventing Viral Disease in the Foodservice Establishment

1. Good Worker Hygiene
2. Environmental sanitation (e.g., cleaning and sanitizing equipment, utensils, food contact surfaces)





# Tips for Improving Hygiene

- Exclude ill food service workers
  - Consider a daily screen of symptoms.
  - Encourage reporting of symptoms particularly vomiting, diarrhea, fever and sore throat, jaundice.
  - Encourage all ill employees to be seen by their health care provider and cleared for return to work.
- Sick children and infants in diapers should be excluded from food preparation areas.



# Tips for Improving Hygiene

- Review food service practices to ensure no-bare hand contact with ready-to-eat foods.
- Adopt active managerial control of hand hygiene.



# Tips for Improving Hygiene

- Become aware of Critical Hand Washing Opportunities
  - After using the toilet
  - After coughing, sneezing
  - After using a handkerchief or disposable tissue
  - After using tobacco products, eating or drinking



# Tips for Improving Hygiene

- Frequently disinfect surfaces using appropriate disinfectants.
  - I.e.: ½ tsp bleach in 1 gal water
- Assure adequate supply of soap and paper towels in restrooms for employees.
- Use signs and other encouragements.



# Tips for Improving Hygiene

- Any surfaces contaminated by vomit should be promptly cleaned and disinfected with bleach solution and then rinsed.
- Food items that may have become contaminated with norovirus should be thrown out.



# Tips for Improving Hygiene

- Linens (including clothes, towels, tablecloths, napkins) soiled to any extent with vomit or stool should be promptly washed at high temperature.
- Wash raw vegetables thoroughly before serving.
- Assure appropriate sewage disposal and maintenance of sewage systems.



# Preventing Viral Disease in the Foodservice Establishment

Nothing is 100% guaranteed

Consider a response management plan



# Hepatitis A Vaccine?

- Highly immunogenic
- Highly efficacious
- Requires two injections
- Cost ~ \$50 – \$80 per injection





# Persons Who Should Receive Hepatitis A Vaccine

- Men who have sex with men
- Intravenous drug users
- Some international travelers
- Persons who have certain medical conditions of the liver
- **Not generally recommended for foodservice workers in New Hampshire. Some workers may wish to take advantage of it as a personal health choice.**



# How Does the Health Department Investigate and Respond?

# Investigation and Control of Potential Diseases

- Events get reported through RSA 141-C
- Initial case investigation
- Worker hygiene assessment
- Foodservice establishment inspection
- Determination of risk
- Recommendations and plan for response



# For more information about food safety regulations in NH

Contact the NH Department of Health and Human Services Bureau of Food Protection:

- E-mail:  
[foodprotection@dhhs.state.nh.us](mailto:foodprotection@dhhs.state.nh.us)
- Web: [www.dhhs.nh.gov/DHHS/BFP](http://www.dhhs.nh.gov/DHHS/BFP)



# UNH Cooperative Extension Food Safety Programs

- ServSafe®
- Safety Awareness in the Food Environment (SAFE)
  - Free 2 hour food safety and sanitation update for food workers
  - Focuses on personal hygiene, cross contamination, time and temperatures

Contact UNH Cooperative Extension office in your county or call 603-862-2496 for referral.



**New Hampshire Department of Health and Human Services  
Bureau of Communicable Disease Control**

**Monday through Friday  
8:00am to 4:30pm, please call:**

**(603) 271-4496**

**during non-business hours, please call:**

**(603) 271-5300**

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